



TRMM Flight Operations Monthly Status Review (MSR)

March 31, 2003



FOT Subsystem Overview

- Operations Status
 - Flight Ops Summary - Lou Kurzmiller
 - Electrical/Thermal - Dave Sepan
 - RCS - Dave Sepan
 - ACS - Dave Sepan
 - Power & Deployables - Justin Knavel
 - FDS - Joe Kowalski
 - C&DH - Nega Berhanu
 - RF/Comm - Nega Berhanu
 - LIS - Nega Berhanu
 - CERES & VIRS - Justin Knavel
 - TMI - Dave Sepan
 - PR - Joe Kowalski
 - Ground System - Justin Knavel
 - Upcoming Activities - Justin Knavel



Flight Operations Summary

- Supported 523 SN events in March
 - 1 Yaw Maneuver; now -X as of 12 Mar 03
 - 3 Delta-V Maneuvers; #429 to #431
- No Anomaly Rpts, 1 Event Report & 2 generic Late Acqs
 - ER #300: IPNOC; Router problem during upgrade (13 Mar)



Flight Operations Summary

- Notable Events
 - Maintained operations after static router problem
 - TRMM Controlled Re-Entry Plan Review
 - Continued support of AutoFDS implementation effort

- No changes to FOT personnel status in March.



Thermal / Electrical Subsystems

- The Thermal subsystem remains nominal
- The Electrical subsystem remains nominal



RCS Subsystem

- RCS performed 3 successful Delta-V maneuvers (#429 - #431)
 - Current fuel remaining is 216 kg by the mass flow method.
 - Current fuel remaining by the PVT method is 193 kg.
 - Current Precision Pressure Transducer level is down to 156.0 psia.
- RCS subsystem is in “blow down” mode and is no longer pressure regulated.
- The current EOL estimate at 402.5 km is May 2004 using 134 kg of fuel as a baseline for controlled re-entry.
- Upcoming Events
 - Review and train with Delta-H procedure, EOL scripts, and the “one-shot” procedure.
 - Review all required steps for a 30+ minute Delta-V maneuver and test with the simulator.



ACS Subsystem

- ACS is performing nominally.
- On March 4th (03-063) a new ACS System Table 51 was loaded to adjust the DSS coarse residual tolerance from 0.2 deg to 0.1 deg.
- Upcoming events:
 - TAM-B calibration



Power Subsystem

- Open issues
 - Battery Charging if the PSIB B degrades further
 - » Automatic PPT/VT4 and Loadshed
 - » After evaluation may configure back to CCM



Deployables Subsystem

- -Y SA Sticking Anomaly On-going Work
 - Configure ACE for 15° in Safehold. (Do we want to do this?)
 - SunAcq configured for 15° pitch.



FDS Subsystem

- The FDS Subsystem remains nominal
- No open issues



C&DH Subsystems

- UTCF/FS Status;
 - 2 UTCF Adjustments were performed on 03-064 (Wed., Mar. 5th) and 03-073 (Fri., Mar. 14th) .
 - » Current UTCF value is 31535996.790397 sec
 - A FS Adjustment was performed on 03-073 (Fri., Mar. 14th).
 - » Current FS value is x'80E'.
 - No Open issues



RF Subsystem

- 2 Late Acquisitions occurred during this report period.
 - GLA #133: Occurred on 03-062 (Mar. 3rd) during the 19:35z TDS/SA2 event. Acquisition was 73 seconds late. 1 GCMR was sent; all data was recovered (CDS-30835).
 - GLA #134: Occurred on 03-074 (Mar. 15th) during the 18:02z 171/SA1 event. Acquisition was 96 seconds late. 1 GCMR was sent; all data was recovered (CDS-30835).
- No RF-related Event Reports since last MSR.



RF Subsystem

- Frequency offsets (monthly average)
 - Transponder #1 = - 29.426 Hz
 - Transponder #2 = + 143.363 Hz
- No open issues



LIS Instrument

- 1 Routine MSFC real-time command request was performed on 03-077 (March 18th) to reduce packet sequence errors.
- No open issues



CERES/VIRS Instruments

- **CERES.**
 - Powered OFF.
- **VIRS.**
 - VIRS reset on 080 (March 21st) at 04:30:36z. The nominal recovery procedure was completed at 05:45:50z.



PR/TMI Instruments

- No open issues with the PR instrument
- PR LNAANALYSIS performed on 03-080 (Mar 21st)
- PR External Calibrations
 - 03-067 (Mar 8th) Bin #38
 - 03-068 (Mar 9th) Bin #69 and Bin #64
- No open issues with the TMI instrument



Ground System / Security

- Titan conduct Security Audit.
- Quarterly GITT Scans were conducted on March 26th.
- TR2XT1 and TR3XT5 monitors were replaced.
- On 03-072 (March 13th) the Building 32 router was upgrade. The static routers for TRMM were deleted and the Front Ends could not reboot. Some of the routers were added back in but not all of them, so the EPV generation messages were not being displayed on String 1 or 2. A script is being developed to use if there are further router upgrades in the future.



Upcoming Activities

- 0-2 Months
 - Perform remaining FSW revisions due to new Kalman Filter mode of operations and Boost activities
 - » Table 51 DSS Tolerance Versions
 - » TAM B Calibration
 - Place remaining permanent table / patch changes into EEPROM
 - Support finalization of TRMM End of Life and Reentry Plan
 - Aid in Development and Testing of Auto-FDS



Upcoming Activities

- 2-3 Months
 - Participate in End of Life Plan review(s)
 - End Of Life Plan Testing, and Simulations
 - Continue to close open CCRs, MOCRs, and MSR Action Items